Wind farms: An emerging dilemma for East Coast national parks

By Betsie Blumberg

LAND-BASED WIND FARMS have been providing clean energy in the United States for some time, but although Europe harnesses offshore wind, to date there are no offshore wind farms in the United States. Recently, however, several proposals for offshore wind farms have been submitted to federal and state regulatory agencies. These are to be located along the Atlantic Coast where ideal conditions exist: strong winds, relatively shallow water, and a large human population in need of electricity. National parks along the East Coast face the dilemma of welcoming a renewable, nonpolluting energy source and at the same time protecting park resources from environmental impacts not yet fully understood.

This view of the sea from Cape Cod National Seashore would change if a proposed wind farm were built offshore. The Atlantic Coast provides ideal conditions for the operation of offshore wind power plants, but their impact on natural resources is not yet understood.

The sheer magnitude of these power plants arouses concern. Wind farms are very big—they may cover an area of 25 square miles (65 sq km) with 150 wind turbines that are 400 feet (122 m) tall. The pylons supporting the turbine towers are sunk 30 to 50 feet (9 to 15 m) into the ocean floor. The towers are lighted to be visible to boats and aircraft. The turbines produce a low level of noise.

Companies that produce wind power have posted notice of intent, or have submitted formal proposals, to construct offshore wind farms in the waters of six states: Massachusetts, New York, New Jersey, Delaware, Maryland, and Virginia. These account for nine possible wind farms, although one company, Winergy, has identified 21 potential sites along the north Atlantic Coast.

The permitting process for these power plants starts when a proposal is submitted to the agency that has jurisdiction over the waters at the site. The U.S. Army Corps of Engineers holds jurisdiction in federal waters; in state waters it belongs to the state's environmental protection agency. The lead agency prepares the environmental impact statement (EIS) or other appropriate review document depending on individual state law. The cooperating agencies (all federal, state, and local agencies involved) submit their concerns, review the final EIS or review document, and advise the lead agency of their response to it. The lead agency then decides to accept or deny the proposal. The National Park Service, as a cooperating agency, determines whether the impacts cited in the EIS are acceptable for park purposes based on law and NPS policy. If a cooperating agency opposes the lead agency's decision, it can appeal it to the appropriate state or federal court.

One park in the Northeast, the Appalachian National Scenic Trail, has already had experience with the prospect of land-based wind farms. In four states, wind farms have been proposed on the windy ridges near the trail. Advocates for the trail, the Appalachian Trail Conference, argue that where a utility is proposed, sufficient mitigation must be incorporated so that trail values, such as quality of experience and preservation of views (particularly important to protect on this scenic trail), are not degraded. In Tennessee a proposal was revised in favor of the trail, and the wind farm was built 20 miles (32 km) away. Concern is now focused on a proposal in Maine from Endless Energy Company for a wind farm that would be visible from the trail for four days of hiking.

In Massachusetts, Winergy has proposed building a wind farm near the town of Truro, just beyond the quarter-mile offshore boundary of Cape Cod National Seashore. According to Nancy Finley, chief of natural resources at the park, the proposed site for the wind farm has been designated by the state as Massachusetts Ocean Sanctuary, which likely has additional regulatory requirements. Nonetheless, the proposal raised concerns at the park about impacts in the air, in the water, and on land.

In the air, wind turbines may stand in the pathway of migratory birds, particularly the thousands of sea ducks whose route over water follows the shoreline. The scenic view would also be affected because this wind farm would be near shore and visible from the park. In the ocean, construction of the towers may disturb seafloor resources. On land the constantly shifting shoreline, which can move 30 or 40 feet (9 or 12 m) in a single storm, makes securing the transmission line very challenging. The transmission line would run underground through the park, its construction disturbing terrestrial natural resources and threatening archeological remains in its path.

Finley says that the park will work within the existing permitting process to ensure that environmental impacts are addressed. That is what each park near a proposed offshore wind farm along the Atlantic Coast will be doing as it works to accommodate this renewable energy source while protecting natural and cultural resources that may be affected. ■

bmb4@psu.edu
Writer-Editor, Penn State University, under cooperative agreement with the NPS Northeast Region; University Park, Pennsylvania